



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,205	09/03/2003	Daniel Mark Coffman	YOR920030305US1	4634
35526 7590 04/30/2007 DUKE W. YEE YEE & ASSOCIATES, P.C. P.O. BOX 802333 DALLAS, TX 75380			EXAMINER HERNANDEZ, JOSIAH J	
			ART UNIT	PAPER NUMBER
			2609	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/30/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/654,205

Applicant(s)

COFFMAN ET AL.

Examiner

Josiah Hernandez

Art Unit

2609

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 11-16, 22-28 and 34 is/are rejected.
- 7) ☒ Claim(s) 9, 10, 20, 21, 32, 33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION*****Claim Rejections - 35 USC § 101***

Claims 24-34 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With respect to claims 24-34, the "computer-readable recording medium," in accordance with Applicant's specification, may be a transmission-type media, such as digital and analog communications links, wired or wireless communications links using transmission forms, such as, for example, radio frequency and light wave transmissions. This subject matter is not limited to that which falls within a statutory category of invention because it is not limited to a process, machine, manufacture, or a composition of matter. Instead, it includes a form of energy. Energy does not fall within a statutory category since it is clearly not a series of steps or acts to constitute a process, not a mechanical device or combination of mechanical devices to constitute a machine, not a tangible physical article or object which is some form of matter to be a product and constitute a manufacture, and not a composition of two or more substances to constitute a composition of matter.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-5, 11-16, 22-28, and 34 are rejected under 35 U.S.C. 102(e) as being anticipated over Ramaswamy et al. (US 6,622,119).

As to claims 1, 12, 23, and 24, Ramaswamy discloses a method for context-based dynamic (e.g. command history, access method, and application relevancy) (see column 1 lines 40-44 and 55-57; column 3 lines 40-45) assignment of weights for formal commands (see column 1 lines 49-52) in a natural language understanding system (see abstract), comprising: receiving a user input (see column 3 lines 31-35); translating the user input into a formal command (see column 5 lines 54-56); determining a weight value for a next set of formal commands based on the formal command (see column 1 lines 49-52); dynamically boosting the

command weights for the next set of formal commands (this is done by giving higher weights to those commands that are more likely to occur next by associating the application, command history and access method and also giving a low weight to those commands that are less likely to occur. This method of dynamically changing the weights is more effective than using a more uniform weighting system) (see column 6 lines 10-17); and executing the formal command (the text input is then submitted to the NLU engine which converts the input text to a formal command, suitable for execution by a command executor) (see column 4 lines 20-25).

As to claims 2, 13, and 25, Ramaswamy discloses receiving a second user input (this would be the next command given by a user after inputting the first command, the system would suggest the next command and the user would input a second response) (see column 5 lines 30-42); translating the second user input into a formal command based on the weight value (this is done by suggesting or waiting for the next command, after a command has already been given, to be given by the user (see column 5 lines 36-45) and then the NLU engine translates the command and assigns weights to them (see column 1 lines 47-55)).

As to claims 3, 14, and 26, Ramaswamy discloses calculating a weight value (see column 1 lines 47-55) for the next set of formal commands includes one of a given command history (see column 1 lines

40-44), access method information (see column 1 lines 55-57), and application context (column 3 lines 40-45).

As to claims 4, 15, and 27, Ramaswamy discloses dynamically boosting the command weights for the set of formal command (this is done by giving higher weights to those commands that are more likely to occur next by associating the application, command history and access method and also giving a low weight to those commands that are less likely to occur. This method of dynamically changing the weights is more effective than using a more uniform weighting system) (see column 6 lines 10-17) including ranking the formal commands based on their corresponding conditional probability (see column 5 lines 23-30).

As to claims 5, 16, and 28, Ramaswamy discloses translating the user input into a formal command including converting the user input into text and converting the text into a formal command (see column 4 lines 18-24).

As to claims 11, 22, and 34, Ramaswamy discloses translating the user input into a formal command including creating a subset of formal commands to narrow a search space for determining the formal command corresponding to the user input (this is done by providing a list of formal

commands that narrow the search by including the most likely commands that would follow a particularly command) (see column 2 lines 15-22).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 6-8, 17-19, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramaswamy et al. (US 6,622,119) in view of Acero et al (US PGPub 2004/0148170).

As to claim 6, 17, and 29, Ramaswamy does not specifically disclose resetting the boosted command weights to a default value. Acero teaches using an invention using statistical classifiers in order to classify tasks on natural language input (see abstract) and identify task/classes of the user input (see paragraph [0012]). Acero discloses calculating a probability of an identified task or class and applying a default value for certain occasions (see paragraph [0122] lines 3-7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the command predicting

method of Ramaswamy with the default calculating value as taught by Acero. If the weight value or probability value of an identified task is too small or negligible, the system might not be able to identify correctly the task so if a default value is used the system can more efficiently identify task as well as not use the same calculated values for different tasks (see paragraph [0122] lines 6-7).

As to claim 7, 18, and 30, Ramaswamy does not specifically disclose resetting the boosted command weights of which includes automatically resetting the command weights to the default value after the next set of formal commands are executed. Acero teaches after a command is executed the statistical classifier calculates a scaling factor and the scaling factor is applied to the default value (so each time an input is received and the a probability value is calculated it will be a scaling factor of the default value) (see paragraph [0123] lines 1-5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the command predicting method of Ramaswamy with the default calculating value as taught by Acero. If the weight value or probability value of an identified task is too small or negligible, the system might not be able to identify correctly the task so if a default value is used the system can more efficiently identify task as well as not use the same calculated values for different tasks (see paragraph [0122] lines 6-7).



As to claim 8, 19, and 31, Ramaswamy does not specifically disclose issuing a reset command by the dialog manager. Acero teaches using a statistical classifier (of which is equivalent to the dialog manager. Coffman describes the dialog manager as aiding the task identification by using context information, history/frequency information, receiving information from a training module and using the information of the top ranking commands. Acero teaches using the statistical classifier for task classification (see abstract), using semantic or contextual logic information to identify task/class (see abstract), interpreting and understanding task (see paragraph [0002]), identifying task based on a probability (weight) value of that particular task (see paragraph [0012]), receiving information from training data and using frequency information (see paragraph [0012])). Acero also teaches using the default values by the statistical classifiers (see paragraph [0123]).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the command predicting method of Ramaswamy with the statistical classifier, which uses the default value, as taught by Acero. Doing so would have allowed for the system by be more organized and allow a specific module to take care of "crunching the number" for the default value.

***Allowable Subject Matter***

4. Claims 9, 10, 20, 21, 32, and 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

As to claims 9, 20, and 32, the prior art of record does not teach or fairly suggests the limitation of resetting the boosted command weights including allowing the boosted command weights to decay over time.

***Conclusion***

Art Unit: 2609

Any inquiry concerning this communication should be directed to Josiah Hernandez whose telephone number is 571-270-1646. The examiner can normally be reached from 7:30 pm to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xiao Wu can be reached on (571) 272-7761. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JH

  
XIAO WU  
SUPERVISORY PATENT EXAMINER